

ABSTRACT

Disclosed is an apparatus and method for the delivery of inspired gas, e.g., supplemental O₂, to a person combined with gas sampling, including for the purpose of monitoring of the ventilation of the person. In the invention, the delivery of inspired gas and gas sampling are accomplished without the use of a sealed face mask. The apparatus of one embodiment of the present invention comprises an oxygen delivery device, nasal airway pressure sampling devices, optionally an oral airway pressure sampling device and at least one pressure analyzer connected to the sampling devices which determine the phase of the person's respiration cycle and the person's primary airway. The oxygen delivery device is connected to a controller such that it delivers a higher flow of oxygen to the person during the inhalation phase of the person's respiratory cycle. The invention thus increases end tidal oxygen concentrations. The invention further comprises carbon dioxide sampling tubes that continuously sample gas from two nasal sites and the mouth. The nasal sampling tubes are connected to a switching valve that is in turn connected to a capnometer which determines carbon dioxide concentration during exhalation. The oral gas sampling site is connected to a second capnometer.